DESCRIPTION:

The **Formal Inspection** (FI) is a defined, structured, and disciplined methodology of finding defects in all software development products over the entire software life cycle.

Formal Inspections are conducted by a software development team of four to nine people assigned to *specific* roles with *specific* tasks to be performed during six *specific* phases, documented on *specific* forms, over a *specific* period (two calendar weeks or less), taking an average of 28-40 total staff hours.

ENTRY CRITERIA/INPUTS:

- Work product ready for FI

EXIT CRITERIA/OUTPUTS:

- All identified defects resolved
- All Open Issues resolved
- Form 1 submitted to SEPO

PROCESS OWNER: SSC San Diego SEPO

ROLES:

MODERATOR - manages and coordinates the entire process

AUTHOR - creates the work product being inspected

PRESENTER - paraphrases aloud the gist of the work product in the Inspection Meeting

RECORDER - writes information about defects on forms in the Inspection Meeting

INSPECTOR - analyzes the work product and identifies defects

OBSERVER - quietly observes the Inspection Meeting for critiquing

LIBRARIAN - assembles "inspection packages", provides support, makes data base entries, files inspection completion package; if no resources are available to perform these tasks then the moderator does them

ASSETS/REFERENCES

a. Formal Inspection Process
b. FI Log Merging Procedure
c. Form 1: FI Announcement and Report
d. Form 2: FI Log

(all available at http://sepo.spawar.navy.mil)

PROCESS STEPS:

1. PLANNING PHASE

Author indicates work product is ready for inspection

Moderator identifies team members, assigns roles, plans schedule

Moderator/Librarian assemble and distribute to all Inspectors the inspection package: work product, forms, checklists, other materials

Moderator, Author decide if Overview Meeting is needed

2. OVERVIEW MEETING (Optional)

Moderator briefs participants on review process

Author briefs participants on work product

3. PREPARATION PHASE

Inspectors examine work product for understanding and possible defects using focus area checklists

Inspectors complete FI Log (Form 2) and deliver to moderator/author (minimum of 8 business hours before Inspection Meeting)

Presenter and recorder prepare for assigned roles

Moderator determines readiness of team and materials for Inspection Meeting

Librarian/Recorder merge all FI Logs into one Consolidated Log (optional) using reference (b)

4. INSPECTION MEETING

Moderator reviews pertinent meeting procedures

Presenter calls for "global issues;" paraphrases gist of work product

Inspectors reach consensus on defects, their classifications, and open issues

Recorder maintains master copy of work product with red line notes (optional)

Team determines need for re-inspection

Team avoids solution discussions; only defects/issues are discussed

Moderator limits discussion on each issue to 2 mins

5. THIRD HOUR (Optional)

Participants finish inspection or discuss issues

6. REWORK PHASE

Author corrects defects in work product

7. FOLLOW-UP MEETING

Moderator and author review revised work product

Moderator determines if modifications are sufficient

Moderator completes Inspection Summary Report (Form 1)

MEASURES:

- Time required by Phase
- Defect summary

DEFECT CLASSIFICATIONS

Major Defect: not consistent with explicit or implicit interpretation of parent specifications (e.g. requirements, design); difficulty of resolving has no bearing on whether it is major or minor.

Minor Defect: anything not deemed major, but still wrong according to the documentation or commonly understood system function (would not delay progress or significantly impair the system if ignored.) Analogy: STR priorities 1,2,3 = Major; 4,5 = Minor

Red Line: typos, punctuation, spelling, and other inconsequential errors

Global defects: any defect, major, minor, or red line, that appears two or more times in the work product. Document it once only.

Open Issue: An item of concern in which consensus on whether or not it is a defect is not reached within 2 minutes from the start of the discussion. Further research, analysis, or discussion is required to determine its status and action, if any, to be taken.

FORMAL INSPECTION PROCESS